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WATER SUPPLY OUTLOOK FOR WASHINGTON



U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

DEPARTMENT OF ECOLOGY STATE OF WASHINGTON

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.

AS OF
FEB. 1, 1977

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: SNOW COURSE MEASUREMENTS BY A SURVEY TEAM IN UTAH'S WASATCH RANGE.
ORC-254-10

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, 6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1220 S.W. Third Ave., Portland, Oregon 97204
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



WATER SUPPLY OUTLOOK FOR WASHINGTON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

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SOIL CONSERVATION SERVICE
WASHINGTON, D.C.

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GALEN S. BRIDGE

STATE CONSERVATIONIST
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SPOKANE, WASHINGTON

In Cooperation with

JOHN A. BIGGS

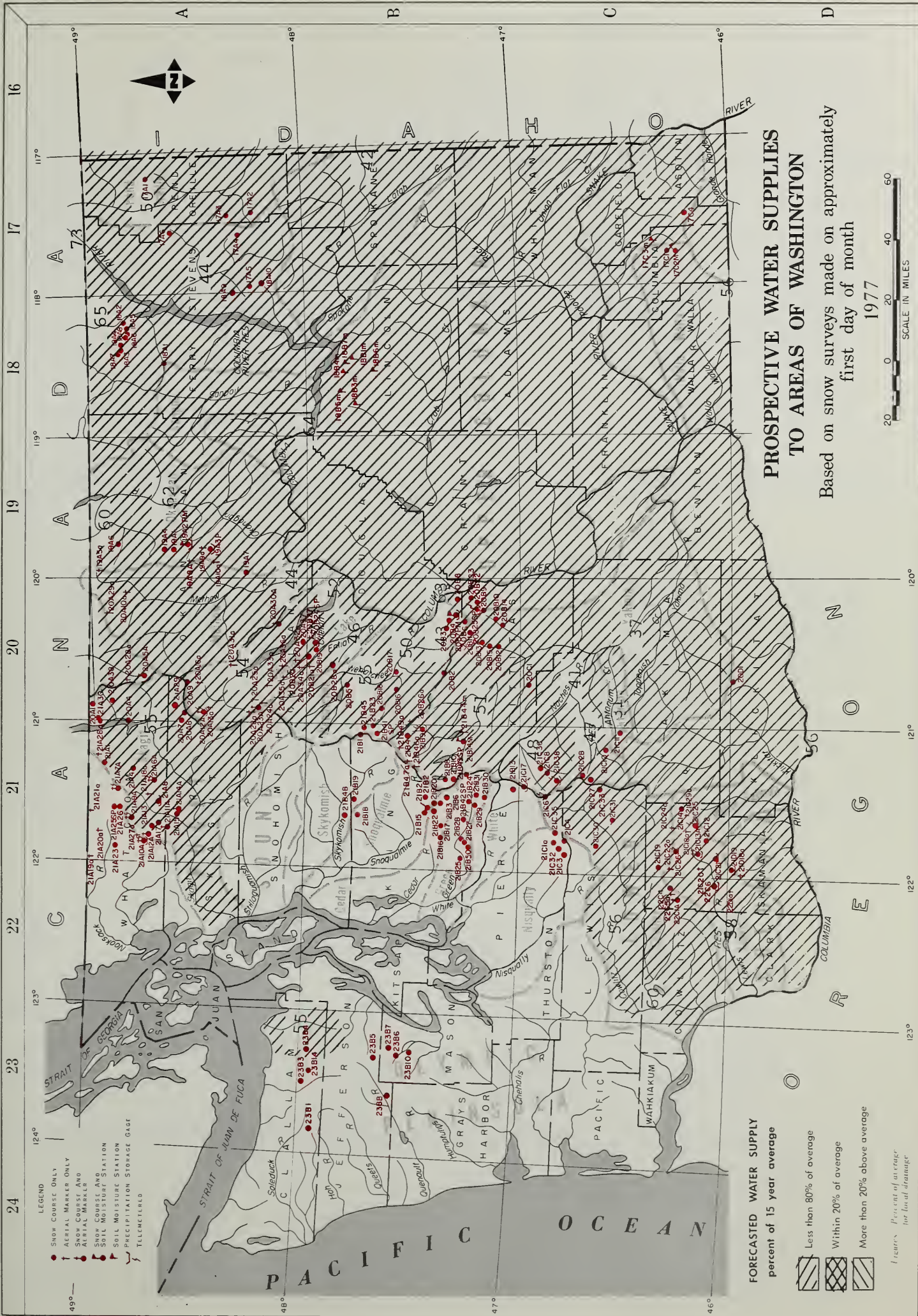
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Report prepared by

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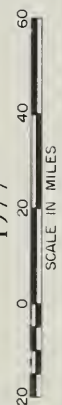
FORECASTED WATER SUPPLY
percent of 15 year average

- Less than 80% of average
- Within 20% of average
- More than 20% above average

Figures Percent of average
for local drainage

PROSPECTIVE WATER SUPPLIES TO AREAS OF WASHINGTON

Based on snow surveys made on approximately
first day of month
1977



INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE GAGES

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
UPPER COLUMBIA DRAINAGE					
Pend Oreille River					
Boyer Mountain	17A2	7	31N	43E	5250
Bunchgrass Meadow	17A3	24	31N	44E	5000
Winchester Creek	17A3	30	31N	43E	2970
Kettle River					
Boulder Road	18A2	36	39N	36E	1480
Butte Creek	18A3	28	39N	35E	1070
Cabin Creek	18A3	5	38N	36E	3170
Crook Creek	18A4	26	39N	35E	3535
Snow Caps Creek	18A5	5	38N	36E	2150
Snow Caps Trail	18A6	5	38N	36E	3720
Summit G. S.	18A7	20	39N	35E	4600
Colville River					
Baird	17A6	19	36N	42E	3215
Carlson	18A9	34	32N	38E	2885
Chevelah	17A5	11	32N	41E	4990
Stranger Mountain	17A5	26	31N	38E	4990
Toyo	18A10	6	29N	38E	3370
Sanpoil River					
Sherman Creek Pass	18A1	19	36N	35E	5350
Okanogan River					
Clark	19A8A	2	36N	23E	7000
Muckamuck	19A9A	30	36N	24E	6750
Nutton Creek No. 1	19A1	30	37N	24E	5700
Nutton Creek No. 2	19A4	19	37N	24E	6000
Paysayten	20A2A	32	40N	18E	4300
Rusty Creek	19A3P	18	35N	24E	4000
Salmon Meadows	19A3PM	33	37N	24E	4500
Starvation Mtn.	19A10A	15	35N	23E	6750
Touts Coulee	19A6	30	39N	25E	2845
Methow River					
Billy Goat Pass	20A10A	10	38N	20E	6400
Dollar Watch	20A29A	8	39N	20E	7000
Hurts Pass	20A3A	7	37N	18E	6500
Horseshoe Basin	19A5A	15	40N	23E	7000
Loup Loup	19A7	36	34N	23E	4650
Chelan Lake Basin					
Cloudy Pass	20A22A	12	31N	15E	6500
Greenwood Flat	20A25A	5	31N	16E	3540
Little Meadows	20A24A	8	31N	16E	5275
Lynn Lake	20A23A	18	31N	16E	5900
Park Creek Flat	20A13A	19	34N	16E	2220
Park Creek Ridge	20A12A	18	34N	16E	4600
Petersons	20A16A	3	34N	17E	3730
Rainy Pass	20A9	21	35N	17E	4780
Safety Harbor	20A30A	32	31N	20E	6300
War Creek Pass	20A31A	34	33N	18E	6500
Entiat River					
Blue Creek G.S.	20B28A	19	28N	18E	5425
Brief	20B19	34	28N	19E	1600
Entiat Meadows	20A33A	28	31N	17E	4540
Entiat River Trail	20A34A	2	29N	17E	3325
Four Mile Ridge	20B27A	15	28N	19E	6800
Fox Camp	20A36A	17	30N	18E	6510
Pope Ridge	20B20	22	29N	18E	3540
Pope Ridge Snow Pillow	20B24SP	22	29N	18E	3540
Pugh Ridge	20A32A	34	30N	18E	6725
Shady Pass	20A37	20	29N	19E	6200
Snow Brushy	20A35A	21	30N	17E	3910
Tommy Creek	20B21A	10	28N	18E	4900
Wenatchee River					
Berne-Nill Creek	21B23	7	26N	15E	3170
Berne-Nill Creek (New)	21B41SP	13	26N	14E	3240
Blewett Pass No. 2	20B2	35	22N	17E	4270
Chiwaukum G. S.	20B16	4	25N	17E	1810
Lake Wenatchee	20B5	33	27N	17E	1970
Leavenworth R. S.	20B17	1	24N	17E	1127
Merritt	20B18	4	26N	16E	2140
Stevens Pass	21B1	14	26N	13E	4070
Stevens Pass Sand Shed	21B45	12	26N	19E	3700

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Wenatchee River (continued)					
Trough #2	20B25SP	10	20N	20E	5310
Colockum Creek					
Colockum Creek Upper	20B22	11	20N	20E	5300
Colockum Creek Lower	20B23	1	20N	20E	4300
Squillchuck Creek					
Beehive Springs	20B3	12	21N	19E	4400
Scout-A-Vista	20B4	18	21N	20E	3400
Stemilt Creek					
Jump-Off	20B8	34	21N	20E	4150
Stemilt Slide	20B6	30	21N	20E	5000
Upper Wheeler	20B7PM	30	21N	20E	4400
Crab Creek					
Creston-Kunz	18B1M	32	27N	34E	2440
Juck Woods	18B3M	28	27N	31E	2750
Krause	18B4M	21	27N	33E	2420
Sheffels	18B5M	17	27N	32E	2378
Sherman	18B7M	24	27N	33E	2440
Wheatridge	18B6M	24	25N	32E	2290
Yakima River					
Ahtanum R. S.	21C11	24	12N	14E	3100
Big Boulder Creek	21B9	35	23N	14E	3200
Bumping Lake	21C8	23	16N	12E	3450
Bumping Lake New	21C36	13	16N	12E	3400
Bumping Ridge	21C38P	9	15N	12E	4600
Colockum Pass	20B9	25	20N	20E	5370
Cooke Creek	20B10	17	19N	20E	4123
Domery Flat	21B44M	15	20N	14E	2200
Fish Lake	21B4	28	24N	14E	3371
Green Lake	21C10	3	13N	13E	6000
Grouse Camp	20B11	29	21N	19E	5385
High Creek	20B12	34	20N	19E	2930
18B46a	21B46a	22	23N	12E	4624
Joe Lake	21B14M	5	20N	14E	2200
Lake Cle Elum	21B47A	7	23N	13E	3327
Lemah Creek	20C1	24	17N	16E	3935
Manastash	21C17	6	16N	11E	5400
Morse Lake	20B13	4	20N	19E	3875
Nanum	20B14	20	19N	20E	3360
Trail Creek	21B8	13	21N	11E	2450
Tunnel Avenue	20B26a	16	23N	15E	5925
Van Epps Pass	20B15	22	20N	19E	3360
Walters Flat	20B15	22	20N	19E	3360
Waputs Lake	21B49a	12	23N	13E	3024
White Pass (East Side)	21C28	2	13N	11E	4500
White Pass (Leach Lake)	21C27	1	13N	11E	4500
LOWER COLUMBIA DRAINAGE					
Asotin Creek					
Spruce Springs	17C4	9	18N	40E	5700
Mill Creek					
Couse	17C3M	2	9N	40E	3370
Homestead	17C1	11	9N	40E	4030
Martin Springs (Helmers SM)	17C2N	23	9N	40E	4400
Klickitat River					
Satus Pass	20D1	21	6N	17E	4030
White Salmon River					
Cultus Creek	21C12	35	7N	BE	4000
Lewis River					
Blue Lake	21C22a	19	9N	BE	4800
Bob's Trail	21C21	25	8N	7E	2200
Calamity Ridge	22D1a	8	5N	SE	2500
Council Pass	21C1Ba	24	9N	9E	4200

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lewis River (continued)					
Divide Meadow	21C29a	21	9N	10E	5600
Grand Meadow	21C25	28	8N	9E	3500
Lone Pine Shelter	21C26	8	9N	7E	3800
Marble Mountain	22C5a	24	8N	5E	3200
New Muddy River	22C6	36	8N	6E	2000
Oldman Pass	21D19	22	6E	3100	
Plains of Abraham	22C1a	35	9N	5E	4400
Smith Creek Road	21C24	29	9N	6E	3400
Spencer Meadow	21C20a	16	8N	7E	2100
Surprise Lakes	21C13a	14	7N	BE	4250
Table Mountain	21C24a	20	9N	9E	4200
Timbered Peak	21D1Ba	36	6N	6E	3000
Cowlitz River					
Cayuse Pass	21C6	15	16N	10E	5300
Mosquito Meadows	21C19	33	10N	7E	4100
Okanapocosh	21C32	28	15N	10E	2870
Packwood Lake	21C31	21	13N	10E	2870
Pigtail Peak	21C33	11	13N	11E	5900
Potato Hill	21C14	36	10N	10E	4500
Willume Creek	21C30	3	13N	BE	3250
PUGET SOUND DRAINAGE					
Nisqually River					
Ghost Forest	21C4	23	15N	8E	4550
Langhire	21C3	29	15N	8E	2760
Paradise Park (New)	21C35	13	15N	BE	5500
Stem Glade	21C1	13	15N	8E	5050
White River					
Corral Pass	21B13	30	18N	11E	6000
Green River					
Airstrip	21B24	18	20N	11E	1800
Charley Creek	21B25	27	21N	8E	1200
Cougar Mountain	21B42SP	21	21N	9E	3200
Grass Mountain No. 2	21B27	14	20N	8E	2900
Grass Mountain No. 3	21B28	12	20N	BE	2100
Lester Creek	21B29	36	20N	10E	3100
Lynn Lake	21B30	22	20N	BE	4000
Sawmill Ridge	21B31	5	19N	11E	4700
Snowshoe Butte	21B43SP	14	20N	11E	5000
Stampede Pass	21B10	25	21N	11E	3860
Twin Camp	21B30	18	19N	11E	4100
Cedar River					
City Cabin	21B3	10	21N	10E	2390
Mt. Gardner	21B21	33	22N	10E	3300
Mt. Gardner Aux.	21B22	31	22N	10E	2500
Mt. Lindsay	21B16	31	22N	9E	2500
Mt. Washington	21B15	B	22N	9E	3000
Rex River	21B17	11	21N	9E	2400
South Fork Cedar	21B6	24	21N	10E	3000
Tinkham Creek	21B20	1	21N	10E	3400
Snoqualmie River					
Alpine Meadow	21B48	31	27N	9E	3500
Olallie Meadows	21B2	19	22N	11E	3625
South Fork Toit	21B18	26	26N	9E	1900
Skykomish River					
.Lake Elizabeth	21B19	33	26N	10E	2900

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Skagit River					
Beaver Creek Trail	21A4	35	39N	12E	2200
Beaver Pass	21A1	9	39N	12E	3680
Brown Top	21A28a	26	40N	12E	6000
Devils Park	20A4	34	38N	16E	5900
Freezout Creek Trail	20A1	14	40N	14E	3500
Freezout Meadows New	20A38	8	40N	10E	5000
Granite Creek	21A29	25	36N	16E	3500
Meadows Cabins	20A8	29	36N	14E	1900
New Hozomeen Lake	20A7	19	40N	14E	2800
Thunder Basin	21A30	10	35N	14E	4200
Baker River					
Baker Pass	21A27a	1	37N	7E	4900
Deck Butte	21A11a	8	36N	8E	3800
Easy Pass	21A7a	19	39N	11E	5400
Jasper Pass	21A6a	17	38N	11E	5400
Komo Kulshan	21A17	31	37N	9E	800
Marten Lake	21A9a	23	38N	8E	3600
Mount Blum	21A18a	27	38N	10E	5800
Rocky Creek	21A12a	20	37N	8E	2100
Schreibers Meadow	21A10a	18	37N	8E	3400
S. F. Thunder Creek	21A14a	20	36N	9E	2200
Sulphur Creek	21A13	22	37N	8E	1600
Three Mile Creek	21A15	18	36N	9E	1600
Watson Lakes	21A16	25	37N	9E	4500
Nooksack River					
Bald Mountain	21A19a	7	40N	7E	4400
Canyon	21A20a	20	40N	8E	5100
Glacier Creek	21A23	9-10	38N	7E	3700
Panorama New	21A26	17	39N	9E	4300

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UPPER COLUMBIA DRAINAGE										LOWER COLUMBIA DRAINAGE										PUGET SOUND DRAINAGE										OLYMPIC PENINSULA															
NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.																
Pend Oreille River																																													
Boyer Mountain	17A2	7	31N	13E	3250	Trough #2	20R25SP	110	20N	10E	5310	Divide Meadow	21C29a	21	9N	10E	5600	Beaver Creek Trail	21A4	35	39N	12E	2200	Skagit River																					
Bunchgrass Meadow	17A1	24	37N	44E	5000	Colockum Creek	20B22	11	20N	20E	5300	Grand Meadow	21C25	28	9N	9E	3500	Beaver Pass	21A1	9	39N	12E	3680	Baker River																					
Winchester Creek	17A3	30	33N	43E	2970	Colockum Creek Lower	20B23	1	20N	20E	4300	Lone Pine Shelter	21C26	8	9N	7E	3800	Brown Top	21A28a	26	40N	12E	6000	Cowlitz River																					
Kettle River																																													
Boulder Road	18A2	36	39N	36E	1450	Beehive Springs	20B3	12	21N	19E	4400	Oldman Pass	22C6	36	6N	6E	2000	Freezout Creek Trail	20A1	14	40N	14E	3500	Lewis River (continued)																					
Butte Creek	18A3	28	39N	35E	4070	Scout-A-Vista	20B4	18	21N	20E	3400	Plains of Abraham	22C1a	35	9N	5E	4400	Granite Creek	21A29	25	36N	16E	3500	Nisqually River																					
Cabin Creek	18A8	5	38N	36E	3170	Jump-Off	20B8	34	21N	20E	4450	Smith Creek Road	22C2a	29	9N	6E	2100	Meadows Cabins	20A8	29	36N	14E	1900	PUGET SOUND DRAINAGE																					
Gout Creek	18A4	26	39N	35E	3595	Stemilt Slide	20B6	30	21N	20E	5000	Spencer Meadow	21C20a	16	8N	7E	3400	New Hozomeen Lake	120A7	19	40N	14E	2800	White River																					
Snow Caps Creek	18A5	3	38N	36E	2150	Upper Wheeler	20B7PM	30	21N	20E	4400	Surprise Lakes	21C24a	14	7N	8E	4250	Thunder Basin	21A30	10	35N	14E	4200	Green River																					
Snow Caps Trail	18A6	5	38N	36E	2720	Crab Creek					Yakima River					Timbered Peak					Cedar River					Snoqualmie River					Skykomish River														
Summit G. S.	18A7	20	39N	35E	4600	Greston-Kunz	18B1m	32	27N	31E	2440	Mosquito Meadows	21C19	33	10N	7E	4100	Cayuse Pass	21C6	15	16N	10E	5300	Cowlitz River					Snoqualmie River					Skykomish River											
Colville River																																													
Baird	17A6	19	36N	42E	3215	Jack Woods	18B3m	28	27N	31E	2750	Obanquo Meadows	21C19	33	10N	7E	4100	Mosquito Meadows	21C19	33	10N	7E	4100	Cowlitz River					Snoqualmie River					Skykomish River											
Carlson	18A9	34	32N	38E	2885	Krause	18B4m	21	27N	33E	2420	Shanapachosh	21C32	28	15N	10E	2200	Obanquo Meadows	21C32	28	15N	10E	2200	Cowlitz River					Snoqualmie River					Skykomish River											
Chewelah	17A4	11	32N	41E	4925	Sherman	18B5m	17	27N	32E	2378	Packwood Lake	21C31	21	13N	10E	2870	Packwood Lake	21C31	21	13N	10E	2870	Cowlitz River					Snoqualmie River					Skykomish River											
Stranger Mountain	17A5	26	31N	38E	4990	Wheatridge	18B7m	24	27N	33E	2440	Pig-wail Peak	21C33	11	13N	11E	5900	Pig-wail Peak	21C33	11	13N	11E	5900	Cowlitz River					Snoqualmie River					Skykomish River											
Togo	18A10	6	29N	38E	3370	Yakima River					Nooksack River					Nisqually River					PUGET SOUND DRAINAGE					White River					Green River					Snoqualmie River					Skykomish River				
Sherman Creek Pass	18A1	19	36N	35E	5350	Ahtanum R. S.	21C11	24	12N	14E	3100	Domery Flat	21B44m	15	20N	14E	2200	Domery Flat	21B44m	15	20N	14E	2200	Cowlitz River					Snoqualmie River					Skykomish River											
Okanogan River																																													
Clark	19A8a	2	36N	23E	7000	Big Boulder Creek	21B9	35	23N	14E	3200	Fish Lake	21B4	28	24N	14E	3371	Fish Lake	21B4	28	24N	14E	3371	Cowlitz River					Snoqualmie River					Skykomish River											
Nuckamuck	19A9a	20	36N	24E	6750	Bumping Lake	21C8	23	16N	12E	3450	Green Lake	21C10	3	12N	13E	6000	Green Lake	21C10	3	12N	13E	6000	Cowlitz River					Snoqualmie River					Skykomish River											
Nutton Creek No. 1	19A1	30	37N	24E	5700	Bumping Lake New	21C36	13	16N	12E	3400	Grouse Camp	20B11	29	21N	19E	5385	Grouse Camp	20B11	29	21N	19E	5385	Cowlitz River					Snoqualmie River					Skykomish River											
Nutton Creek No. 2	19A4	19	37N	24E	6000	Bumping Ridge	21C38P	9	15N	12E	4600	High Creek	20B12	34	20N	19E	2930	High Creek	20B12	34	20N	19E	2930	Cowlitz River					Snoqualmie River					Skykomish River											
Paydayten	20A28a	32	40N	18E	4300	Colockum Pass	20B9	25	20N	20E	5370	Joe Lake	21B46a	22	23N	12E	4624	Joe Lake	21B46a	22	23N	12E	4624	Cowlitz River					Snoqualmie River					Skykomish River											
Rusty Creek	19A3P	18	35N	24E	4000	Cooke Creek	20B10	17	19N	20E	4123	Lemah Creek	21B47a	7	23N	13E	3327	Lemah Creek	21B47a	7	23N	13E	3327	Cowlitz River					Snoqualmie River					Skykomish River											
Sulmon Meadows	19A2PM	33	37N	24E	4500	Cook Lake	21B4	28	24N	14E	3371	Manastash	20C1	24	17N	16E	3935	Manastash	20C1	24	17N	16E	3935	Cowlitz River					Snoqualmie River					Skykomish River											
Starvation Mtn.	19A10a	15	35N	23E	6750	Green Lake	21C10	3	12N	13E	6000	Morse Lake	20B13	6	16N	11E	5400	Morse Lake	20B13	6	16N	11E	5400	Cowlitz River					Snoqualmie River					Skykomish River											
Touts Coulee	19A6	30	39N	25E	2845	Grouse Camp	20B11	29	21N	19E	5385	Nanum	20B14	4	20N	19E	3875	Nanum	20B14	4	20N	19E	3875	Cowlitz River					Snoqualmie River					Skykomish River											
Methow River																																													
Billy Goat Pass	20A10a	10	38N	20E	6400	Tunnel Avenue	21B8	13	21N	11E	2450	Trail Creek	20B14	4	20N	19E	3360	Trail Creek	20B14	4	20N	19E	3360	Cowlitz River					Snoqualmie River					Skykomish River											
Dollar Watch	20A29a	7	37N	18E	7000	Van Upps Pass	20B26a	16	23N	15E	5925	Walters Flat	20B15	22	20N	19E	3360	Walters Flat	20B15	22	20N	19E	3360	Cowlitz River					Snoqualmie River					Skykomish River											
Harris Pass	20A5A	8	37N	18E	6500	Wapatus Pass	21B49a	12	23N	13E	3024	White Pass (East Side)	21C28	2	13N	11E	4500	White Pass (East Side)	21C28	2	13N	11E	4500	Cowlitz River					Snoqualmie River					Skykomish River											
Horseshoe Basin	19A5a	15	40N	23E	7000	White Pass (Leach Lake)	21C27	1	13N	11E	4500	LOWER COLUMBIA DRAINAGE																			OLYMPIC PENINSULA														
Loup Loop	19A7	36	34N	23E	4650	Asotin Creek																			Dungeness River																				
Chelan Lake Bosin																																													
Cloudy Pass	20A22a	12	31N	15E	6500	Spruce Springs	17C4	9	8N	40E	5700	City Cabin	21B3	10	21N	10E	2390	City Cabin	21B3	10	21N	10E	2390	Cowlitz River					Snoqualmie River					Skykomish River											
Greenwood Flat	20A25a	3	31N	16E	3540	Fraser Springs	17C5m	2	9N	40E	3370	Mt. Gardner	21B21	30	22N	10E	3300	Mt. Gardner	21B21	30	22N	10E	3300	Cowlitz River					Snoqualmie River					Skykomish River											
Little Meadows	20A24a	8	31N	16E	5275	Couse	17C1	11	9N	40E	4030	Mt. Gardner Aux.	21B22	31	22N	10E	2500	Mt. Gardner Aux.	21B22	31	22N	10E	2500	Cowlitz River					Snoqualmie River					Skykomish River											
Lynn Lake	20A23a	18	31N	16E	5900	Homestead	17C2M	23	9N	40E	4400	Mt. Lindsay	21B16	31	22N	9E	2500	Mt. Lindsay	21B16	31	22N	9E	2500	Cowlitz River					Snoqualmie River					Skykomish River											
Park Creek Flat	20A13a	19	34N	16E	2220	Martin Springs (Helmers SM)	17C2M	23	9N	40E	4400	Mt. Washington	21B15	8	22N	9E	3000	Mt. Washington	21B15	8	22N	9E	3000	Cowlitz River					Snoqualmie River					Skykomish River											
Park Creek Ridge	20A12a	18	34N	16E	4600	Blue Lake	21C22a	19	9N	8E	4800	Rex River	21B17	11	21N	9E	2400	Rex River	21B17	11	21N	9E	2400	Cowlitz River					Snoqualmie River					Skykomish River											
Petersons	20A16a	3	34N	17E	3730	Bob's Trail	21C21	25	8N	7E	2200	South Fork Cedar	21B6	24	21N	10E	3000	South Fork Cedar	21B6	24	21N	10E	3000	Cowlitz River					Snoqualmie River					Skykomish River											
Rainy Pass	20A9	21	35N	17E	4780	Council Pass	21C1Ba	24	9N	9E	4200	Satus Pass	20D1	21	6N	17E	4030	Satus Pass	20D1	21	6N	17E	4030	Cowlitz River					Snoqualmie River					Skykomish River											
Safety Harbor	20A30a	32	31N	20E	6300	Wenatchee River																			Dungeness River																				
War Creek Pass	20A31a	34	33N	18E	6500	Berne-Mill Creek	21B23	7	26N	15E	3170	Berne-Mill Creek (New)	21B41SP	13	26N	14E	3240	Berne-Mill Creek	21B23	7	26N	15E	3170	Cowlitz River					Snoqualmie River					Skykomish River											
Entiat River																																													
Blue Creek G.S.	20B28a	19	28N	18E	5425	Blewett Pass No. 2	20B2	35	22N	17E	4270	Chiawukum G. S.	20B16	4	25N	17E	1810	Chiawukum G. S.	20B16	4	25N	17E	1810	Cowlitz River					Snoqualmie River					Skykomish River											
Brief	20B19	34	28N	19E	1600	Lake Wenatchee	20B5	33	27N	17E	1970	Leavenworth R. S.	20B17	1	24N	17E	1127	Leavenworth R. S.	20B17	1	24N	17E	1127	Cowlitz River					Snoqualmie River					Skykomish River											
Entiat River Trail	20A34a	2	29N	17E	3325	Nevitt	20B18	4	26N	16E	2140	Stevens Pass	21B1	14	26N	13E	4070	Stevens Pass	21B1	14	26N	13E	4070	Cowlitz River					Snoqualmie River					Skykomish River											
Entiat River	20A33a	28	31N	17E	4540	Stevens Pass Sand Shed	21B45	12	26N	19E	3700	Wenatchee River																			Dungeness River														
Four Mile Ridge	20B27a	15	28N	19E	6800	Wenatchee River																			Dungeness River																				
Fox Camp	20A36a	17	30N	18E	6510	Wenatchee River																			Dungeness River																				
Popo Ridge	20B20	22	29N	18E	3540	Wenatchee River																			Dungeness River																				
Pope Ridge	20B24SP	22	29N	18E	3540	Wenatchee River																			Dungeness River																				
Pugh Ridge	20A32a	34	30N	18E	6725	Wenatchee River																			Dungeness River																				
Shady Pass	20A37	20	29N	19E	6200	Wenatchee River																			Dungeness River																				
Snow Brushy	20A35a	21	30N	17E	3910	Wenatchee River																																							

WATER SUPPLY OUTLOOK

State of Washington
February 1, 1977

* The water supply outlook for irrigation and power in the *
* state of Washington is very poor for this time of year. *
* Measurements of snow cover in the state and tributary areas *
* indicate that the snow pack is at a record low as of *
* February 1. Some of our tributary areas, such as the Columbia *
* main stem in Canada, have near normal snow packs but *
* generally over the area as a whole the snow packs are very *
* deficient. Precipitation has also been very low since the *
* month of August. This lack of precipitation in the fall, *
* coupled with the low snow packs, has resulted in extremely *
* dry soils which will have the tendency to reduce runoff even *
* further. The one bright spot in the whole water supply *
* picture is the fact that reservoirs have more than normal *
* amounts of water in storage as of February 1. *
* *

SNOW COVER

The snow packs in the state are the lowest that have ever been measured in the history of the snow survey program. Drainage areas such as the Elwha and Dungeness on the Olympic Peninsula have no snow at the two snow courses in that area. A better measure of a drainage division with the lack of snow is the Yakima Drainage, measured by twenty-five snow courses. This watershed has a current snow pack that is only 4 percent of normal. In the Upper Columbia Basin of western Montana, northern Idaho, and Washington, the snow packs range from the above listed low for the Yakima Basin to a high of 43 percent of normal for the Kettle River. This high figure is influenced to a large extent by the measurements in British Columbia. Along the Lower Columbia Drainage, the snow pack ranges from no snow at the one snow course on the Klickitat Drainage to 19 percent of normal for the Mill Creek Drainage, tributary to the Walla Walla River, in the Blue Mountains. The Puget Sound Drainage ranges from 2 percent of normal, as measured by one snow course in the Snoqualmie Drainage, to 25 percent of normal for the Skagit Watershed, measured by twelve snow courses. As previously stated, there was no snow at the two snow courses in the Olympic Peninsula. It is unknown what the snow cover on the Nisqually Basin is because that snow course network was discontinued.

RESERVOIRS

Only four of the reported reservoirs in the state of Washington have below normal amounts of water in storage as of February 1. Bumping Lake is 53 percent of average, Keechelus, 68 percent, Conconully, 74 percent, and Chelan, 87 percent. Storage in the remaining reservoirs ranges up to 64 percent above normal for this time of year. Under careful management, it is expected that these reservoirs will satisfy the bare necessities of the water users below, but there will be no surplus water for any use.

PRECIPITATION

Winter precipitation has all been markedly below normal throughout the state and tributary areas. The greatest amount of rainfall reported by the National Weather Service was in the Columbia Drainage in Canada. This amount was 51 percent of normal. The least amount occurred along the southwestern slopes of the Cascades where only 26 percent of normal precipitation occurred. Central and northeastern Washington had this near record low precipitation of 28 percent of normal. During January, rainfall on the southwestern slopes of the Cascades was only 17 percent of average.

STREAMFLOW

River measurements, reported by the United States Geological Survey, indicate that during the month of January, flows of the rivers ranged from a low of 16 percent of normal for the Palouse River, as measured at Hooper, to a high of 87 percent of normal for the Columbia at Birchbank. The flow of the Wenatchee River was reported at 100 percent of normal, but this is believed to be an erroneous measurement caused by ice effects in the river. Preliminary forecasts issued by the Soil Conservation Service and coordinated with the National Weather Service, River Forecast Center, indicate the expected streamflow during the April-September period will range from a low of 31 percent of normal for the Ahtanum Creek, as measured near Tampico, to a high of 73 percent for the Columbia River at Birchbank. The forecast for the Columbia River at The Dalles, the last measuring station on the Columbia River and the one that totals up the whole Columbia Basin in the northwest, is for a flow of 58,500,000 acre feet, or 56 percent of normal for the April-September period. The record low for this station occurred in 1926, when 56,600,000 acre feet of water flowed by this station. Unless conditions improve during the months of February and March, it is expected that the forecast for the Columbia River will be dropped even below this 1926 low.

STREAMFLOW FORECASTS - FEBRUARY, 1977

The following summarized runoff forecasts are based principally on mountain snow-cover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts. Streamflow figures for 1976 are preliminary and subject to revision.

Basin, Stream and Station	Forecast Runoff 1977	Seasonal Streamflow in Thousands of Acre-Feet					
		%	Fore-				15-Yr.
		15-Yr. Avg.	cast period	1976	1975	1974	Average 58-72
<u>COLUMBIA BASIN</u>							
<u>COLUMBIA RIVER SYSTEM</u>							
Columbia River	33900	73	Apr-Sept	53937	41101	54411	46410
at Birchbank <u>1/</u>	25800	69	Apr-July	38979	32944	44439	37548
	18000	65	Apr-June	26054	22429	31853	27549
Columbia River	44299	54	Apr-Sept	80974	66501	88368	69020
at Grand Coulee <u>1/</u>	36200	62	Apr-July	62715	55870	75997	58368
	27600	60	Apr-June	46556	41377	58725	46049
Columbia River	47500	63	Apr-Sept	86849	73553	96238	75290
bl Rock Island Dam <u>1/</u>	38000	59	Apr-July	67890	62727	83339	64181
	27900	55	Apr-June	50520	46759	64205	50594
Columbia River	58500	56	Apr-Sept	122876	108901	139431	104600
at The Dalles, Or <u>1/</u>	49800	55	Apr-July	99965	94195	123171	89875
	42400	58	Apr-June	79164	73012	98926	73143
<u>PEND OREILLE RIVER SYSTEM</u>							
Pend Oreille River	8000	50	Apr-Sept	17638	16946	21551	15950
bl Box Banyon	7200	49	Apr-July	15979	15271	20103	14677
	6100	48	Apr-June	13687	11814	16732	12767
<u>KETTLE RIVER SYSTEM</u>							
Kettle River	1220	65	Apr-Sept		1860	2831	1873
nr. Laurier	1170	65	Apr-July		1779	2752	1794
	1070	65	Apr-June		1592	2476	1640

1/ Observed flow corrected for storage in any of the following reservoirs which are above the station: Kootenay Lake, Hungry Horse, Flathead Lake, Pend Oreille Lake, F. D. Roosevelt Lake, Lake Chelan, Coeur d'Alene Lake, Brownlee, Noxon Reservoir and pumpage at F. D. Roosevelt Lake.

Basin, Stream and Station	Forecast Runoff 1977	Seasonal Streamflow in Thousands of Acre-Feet					
		% 15-Yr. Avg.	Fore- cast period	1976	1975	1974	15-Yr. Average 58-72
<u>KETTLE RIVER SYSTEM (Cont.)</u>							
Colville River							
at Kettle Falls	65	44	Apr-Sept		225	286	148
	59	43	Apr-July		203	269	137
	54	42	Apr-June		187	252	128
<u>SPOKANE RIVER SYSTEM*</u>							
Spokane River	1240	42	Apr-Sept	3215	3418	4801	2982
at Post Falls ID 2/	1160	42	Apr-July	3069	3275	4682	2899
	1130	41	Apr-June	2884	3033	4409	2773
<u>OKANOGAN RIVER SYSTEM</u>							
Similkameen River							
nr. Nighthawk	910	60	Apr-Sept	1967	1434	2216	1516
	850	60	Apr-July	1743	1339	2092	1424
	720	59	Apr-June	1357	1092	1710	1222
Okanogan River	1070	62	Apr-Sept	2135	1582	2757	1723
nr. Tonasket	990	63	Apr-July	1785	1437	2534	1582
	850	63	Apr-June	1361	1181	2029	1349
<u>METHOW RIVER SYSTEM</u>							
Methow River	450	44	Apr-Sept		992	1665	1031
nr. Pateros	440	46	Apr-July		911	1555	963
	365	44	Apr-June		728	1268	832
<u>CHELAN RIVER SYSTEM</u>							
Chelan River	650	52	Apr-Sept	1467	1364	1749	1253
at Chelan 3/	570	51	Apr-July	1189	1210	1508	1112
	470	54	Apr-June	829	858	1115	881
Stehekin River	490	54	Apr-Sept		1040	1223	904
at Stehekin	410	53	Apr-July		796	996	776
	360	60	Apr-June		526	717	600
Entiat	110	46	Apr-Sept		268	387	239
nr. Ardenvoir	100	46	Apr-July		244	347	220
	85	47	Apr-June		182	256	180

- * Forecasts made by Jack A. Wilson, Soil Conservation Service, Boise, Idaho
- 2/ Observed flow corrected for storage in Coeur d'Alene Lake and diversions by Spokane Valley Farms Company and Rathdrum Prairie Canals.
- 3/ Observed flow corrected for storage in Lake Chelan.

Basin, Stream and Station	Forecast Runoff 1977	Seasonal Streamflow in Thousands of Acre-Feet					
		% 15-Yr. Avg.	Fore- cast period	1976	1975	1974	15-Yr. Average 58-72
<u>WENATCHEE RIVER SYSTEM</u>							
Wenatchee River	725	55	Apr-Sept		1396	1910	1312
at Plain	640	54	Apr-July		1262	1652	1187
	480	50	Apr-June		924	1188	956
Wenatchee River	900	50	Apr-Sept	2134	1920	2556	1786
at Peshastin	810	50	Apr-July	1795	1738	2232	1629
	650	49	Apr-June	1261	1279	1632	1324
Stemilt Basin nr. Wenatchee	60	43	May-Sept	144*	134*	141*	138*
<u>YAKIMA RIVER SYSTEM</u>							
Yakima River	74	52	Apr-Sept	153	168	231	142
nr. Martin <u>4/</u>	70	53	Apr-July	140	154	214	131
	63	54	Apr-June	116	127	170	116
Yakima River	490	51	Apr-Sept		1112	1463	968
at Cle Elum <u>5/</u>	450	52	Apr-July		1012	1335	877
	415	54	Apr-June		852	1067	764
Yakima River	640	37	Apr-Sept		2229	3216	1730
nr. Parker <u>6/</u>	610	36	Apr-July		2141	3092	1701
	540	34	Apr-June		1859	2601	1580
Kachess River	62	50	Apr-Sept	131	154	207	125
nr. Easton <u>7/</u>	58	49	Apr-July	119	145	193	118
	51	48	Apr-June	97	120	156	106
Cle Elum River	260	55	Apr-Sept	560	539	745	477
nr. Roslyn <u>8/</u>	235	54	Apr-July	483	492	664	437
	210	56	Apr-June	366	388	500	372

* Thousands of Miners' inches.

4/ Observed flow corrected for storage in Lake Keechelus.

5/ Observed flow corrected for storage in Keechelus, Kachess and Cle Elum Lakes and diversion by Kittitas Canal.

6/ Observed flow corrected for storage in Keechelus, Kachess, Cle Elum, Bumping and Rimrock Lakes and diversions by Roza, Union Gap, New Reservation, Old Reservation and Sunnyside Canals.

7/ Observed flow corrected for storage in Lake Kachess.

8/ Observed flow corrected for storage in Lake Cle Elum.

Basin, Stream and Station	Forecast Runoff 1977	Seasonal Streamflow in Thousands of Acre-Feet					
		% 15-Yr. Avg.	Fore- cast period	1976	1975	1974	15-Yr. Average 58-72
<u>YAKIMA RIVER SYSTEM (Cont.)</u>							
Bumping River	70	48	Apr-Sept	174	179	230	146
nr. Nile <u>9/</u>	64	48	Apr-July	150	163	206	134
	56	50	Apr-June	108	119	152	112
American River	57	45	Apr-Sept		149	203	128
nr. Nile	52	45	Apr-July		137	181	118
	47	47	Apr-June		104	137	100
Tieton River	117	47	Apr-Sept	308	299	402	247
at Tieton Dam <u>10/</u>	105	50	Apr-July	245	253	334	211
	85	49	Apr-June	180	187	253	172
Naches River	365	41	Apr-Sept		1054	1428	889
nr. Naches <u>11/</u>	340	42	Apr-July		952	1286	810
	290	42	Apr-June		761	1038	698
Ahtanum Creek	15	31	Apr-Sept		57	83	48
nr. Tampico <u>12/</u>	13	30	Apr-July		51	76	44
	12	31	Apr-June		44	64	39
<u>LOWER COLUMBIA RIVER SYSTEM</u>							
Mill Creek	14	56	Apr-Sept		39	57	27
nr. Walla Walla	12	50	Apr-July		34	51	24
	11	52	Apr-June		30	47	21
Lewis River	775	58	Apr-Sept	1333	969	1952	1341
at Ariel <u>13/</u>	640	56	Apr-July	1161	1022	1760	1151
	575	56	Apr-June	1012	885	1489	1028
Cowlitz River	1175	56	Apr-Sept		2127	3323	2101
Blw. Mayfield Dam	1000	54	Apr-July		1852	2976	1846
	930	59	Apr-June		1451	2416	1578

9/ Observed flow corrected for storage in Bumping Lake.

10/ Observed flow corrected for storage in Rimrock Lake.

11/ Observed flow corrected for storage in Bumping and Rimrock Lakes and diversions by Tieton, Selah Valley, Wapatox Canals and City of Yakima.

12/ Observed flow of North and South Forks (Combined).

13/ Observed flow corrected for storage in Lake Merwin, Yale and Swift Reservoirs.

14/ Observed flow corrected for storage in Mayfield Reservoir.

Basin, Stream and Station	Forecast Runoff 1977	Seasonal Streamflow in Thousands of Acre-Feet					
		%	Fore-				15-Yr.
		15 Yr. Avg.	cast period	1976	1975	1974	Average 58-72

LOWER COLUMBIA RIVER SYSTEM (Cont.)

Cowlitz River	1660	60	Apr-Sept	3030	2646	4128	2773
at Castle Rock <u>14/</u>	1420	59	Apr-July	2550	2278	3694	2416
	1260	60	Apr-June	2115	1816	3029	2083

OLYMPIC PENINSULA

DUNGENESS RIVER SYSTEM

Dungeness River	90	55	Apr-Sept		149	205	165
nr. Sequim	77	56	Apr-July		118	162	137
	58	56	Apr-June		82	111	104

PUGET SOUND

SKAGIT RIVER SYSTEM

Skagit River	1330	55	Mar-Aug		2339	3169	2418
at Newhalem							

14/ Observed flow corrected for storage in Mayfield Reservoir.

COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

The following tabulation of Washington stream basins presents the water content of the snow about February 1, 1977, as percent of the same date in 1976 and 1975 and average of record.

Tributary Basin	No. of Courses Average	1977 Snow Water Expressed as percent of		
		1976	1975	1958-72 Avg.
<u>UPPER COLUMBIA BASIN</u>				
Pend Oreille	8	37	24	26
Kettle	15	43	39	43
Colville	5	27	14	14
Spokane	4	35	29	29
Okanogan	30	31	30	33
Methow	6	15	15	15
Chelan	4	4	8	16
Entiat	3	9	10	10
Wenatchee	9	12	10	12
Yakima	25	12	11	4
Ahtanum	2	9	6	-
<u>LOWER COLUMBIA</u>				
Mill Creek	3	17	16	19
Klickitat	1	No Snow		
White Salmon	2	16	13	11
Lewis	17	10	8	6
Cowlitz	3	10	10	9
<u>PUGET SOUND</u>				
White	3	12	9	11
Green	10	8	6	8
Snoqualmie	1	2	-	2
Skykomish	2	12	11	17
Skagit	12	18	20	25
Baker	10	17	18	18
<u>OLYMPIC PENINSULA</u>				
Elwha	1	No Snow		
Dungeness	1	No Snow		

RESERVOIR STORAGE - 1000 Acre Feet

BASIN OR STREAM	RESERVOIR	USABLE 1/ CAPACITY	Measured (February)			
			1977	1976	1975	Normal*
<u>COLUMBIA</u>						
Spokane	Coeur d'Alene Lake	225.1	21.7	169.1	63.8	138.4
Columbia	Franklin D. Roosevelt Lake	5232.0	4172.0	5116.0	4844.6	3766.0
Columbia	Banks Lake	714.9	704.2	712.2	714.9	566.9
Okanogan	Conconully Reservoir	13.0	8.0	10.0	10.6	10.8
Okanogan	Salmon Lake	10.5	9.6	9.8	9.2	7.6
Chelan	Lake Chelan	676.1	258.2	513.5	242.9	295.9
<u>YAKIMA</u>						
Yakima	Keecehlus Lake	157.8	65.6	118.3	127.8	96.1
Kachess	Kachess Lake	239.0	192.4	206.8	142.4	175.7
Cle Elum	Lake Cle Elum	436.9	382.0	308.4	338.2	232.9
Bumping	Bumping Lake	33.7	4.4	11.4	5.3	8.3
Tieton	Rimrock Lake	198.0	128.1	140.0	136.3	110.6
<u>PUGET SOUND</u>						
Skagit	Ross Reservoir	1404.1	769.7	1258.7	1094.5	582.1
Skagit	Diablo Reservoir	90.6	83.5	88.0	84.9	84.4
Skagit	Gorge Reservoir	9.8	8.4	8.3	8.2	-

^{1/} Based on Active Storage

* 15-year Average 1958-72

SOIL MOISTURE - FEBRUARY

Drainage Basin and Station	Number	Elev.	Profile Depth	Inches Total Capacity	Soil Moisture Content Inches as of Feb.1		
					1977	1976	1975
<u>OKANOGAN</u>							
Salmon Meadows	19A2M	4500	48	5.4	Frozen	3.6	2.0
Trout Creek	3-M	3600	48	7.3	Frozen	-	3.2
<u>YAKIMA</u>							
Domery Flat	21B20m	2200	48	6.9	-	-	-
Lake Cle Elum	21B14M	2200	48	12.8	-	-	-
<u>WALLA WALLA</u>							
Couse	17C3m	3650	48	11.1	-	-	10.2
Helmets	17C2M	4400	48	12.0	-	-	8.8
<u>WENATCHEE</u>							
Upper Wheeler	20B7M	4400	48	12.7	-	11.6	8.6

FALL SOIL MOISTURE

Drainage Basin and Station	Number	Elev.	Profile Depth	Inches Total Capacity	Soil Moisture Content (Inches) as of Oct. 1		
					1976	1975	1974
<u>OKANOGAN</u>							
Salmon Meadows	19A02M	4500	48	5.4	3.4	3.2	1.8
Trout Creek	3-M	3600	48	7.3	3.4	3.1	3.0
<u>YAKIMA</u>							
Domery Flat	21B20m	2200	48	6.9	-	-	-
Lake Cle Elum	21B14M	2200	48	12.8	-	-	-
<u>WALLA WALLA</u>							
Couse	17C3m	3650	48	11.1	-	7.3	-
Helmets	17C2M	4400	48	12.0	-	6.5	-
<u>WENATCHEE</u>							
Upper Wheeler	20B7M	4400	48	12.7	-	8.6	5.4

PRECIPITATION 1/

Division Average Observations and Departures

Drainage Divisions	FALL		WINTER	
	Sept-Oct Observed	1976 <u>2/</u> Departure	Nov-Dec 1976 Observed	Jan 1977 <u>2/</u> Departure
Columbia in Canada	3.10	-1.92	5.64	-5.49
Pend Oreille - Spokane	1.54	-2.50	4.28	-7.90
Northeastern Washington	0.87	-1.60	1.88	-4.83
Southeastern Washington	1.45	-1.06	2.08	-4.98
Central Washington	1.24	-3.51	5.60	-14.43
North Central Washington	0.61	-0.98	1.92	-2.92
Northwest Slope Cascades	6.65	-6.56	16.86	-21.07
Southwest Slope Cascades	4.30	-4.37	7.41	-21.50

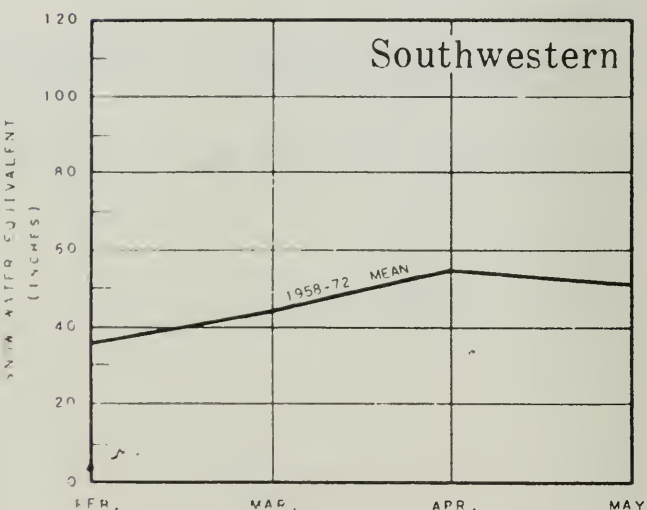
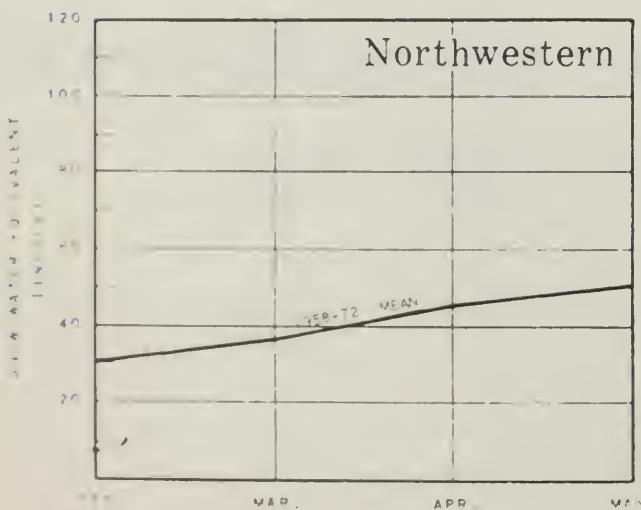
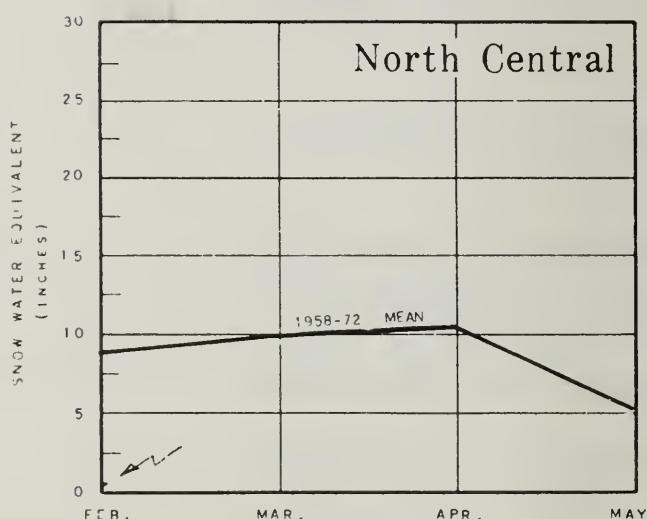
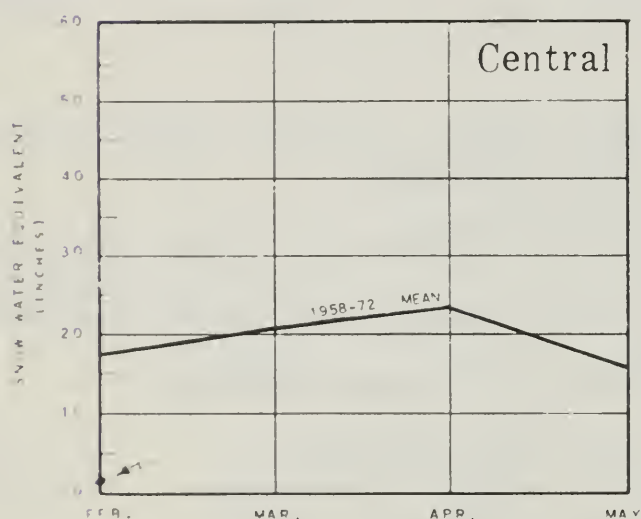
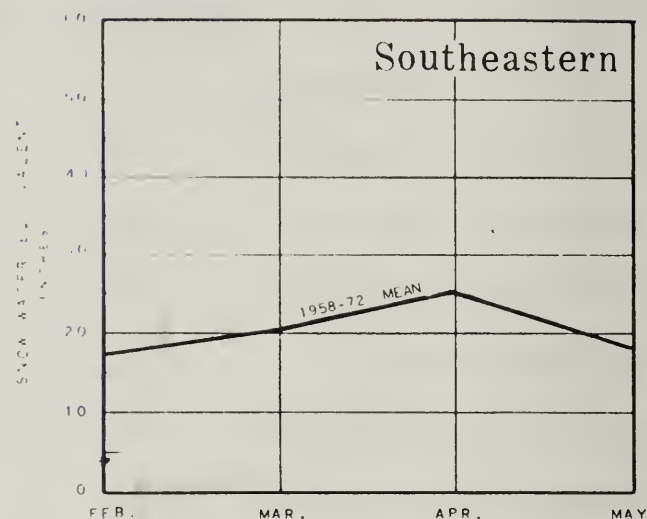
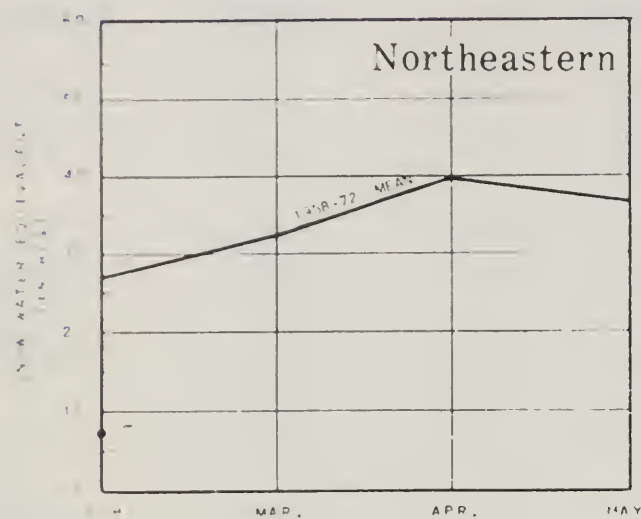
Northeastern Washington	- Lower Spokane, Colville, Sanpoil and Lower Kettle Drainages.
Southeastern Washington	- Touchet, Tucannon and Palouse Drainages.
Central Washington	- Yakima, Wenatchee and Chelan Drainages.
North Central Washington	- Methow and Okanogan Drainages.
Northwest Slope Cascades	- Puget Sound Drainages.
Southwest Slope Cascades	- Lower Columbia Drainages.

1/ - Preliminary analysis by National Weather Service from data furnished by Meteorological Services of Canada and the National Weather Service.

2/ - Departure from 15-year (1958-72) drainage division average.

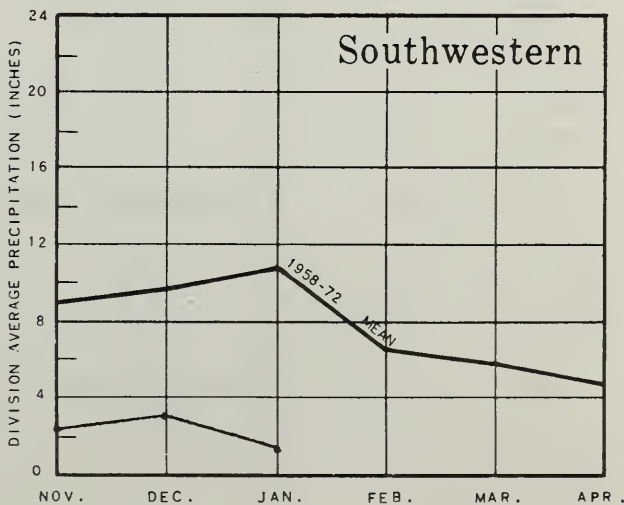
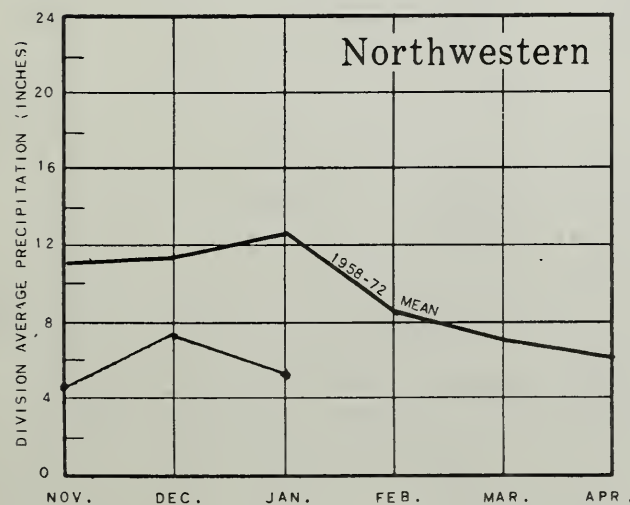
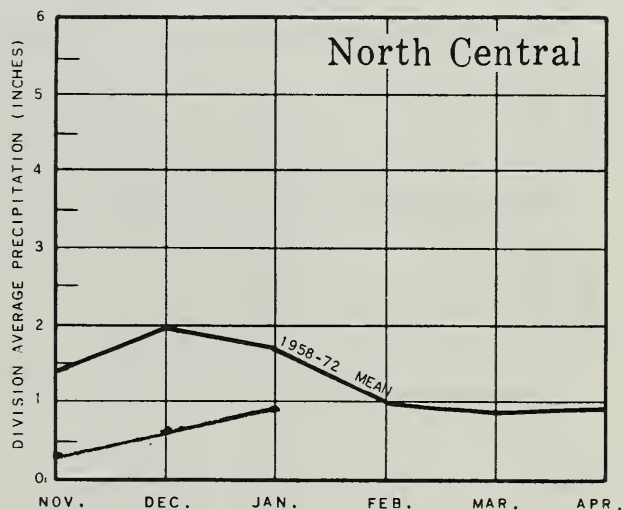
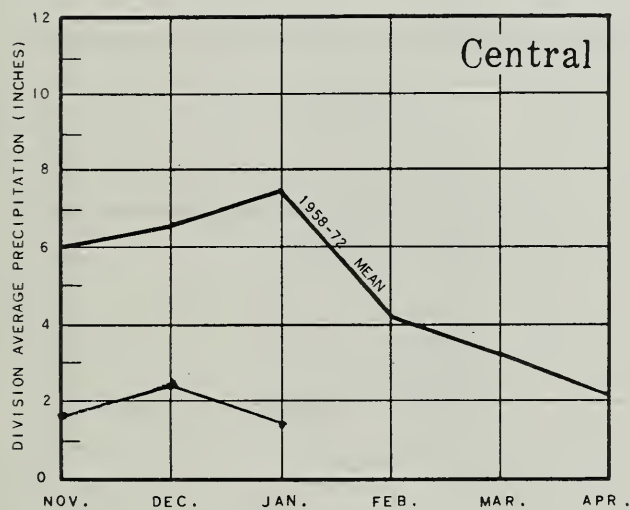
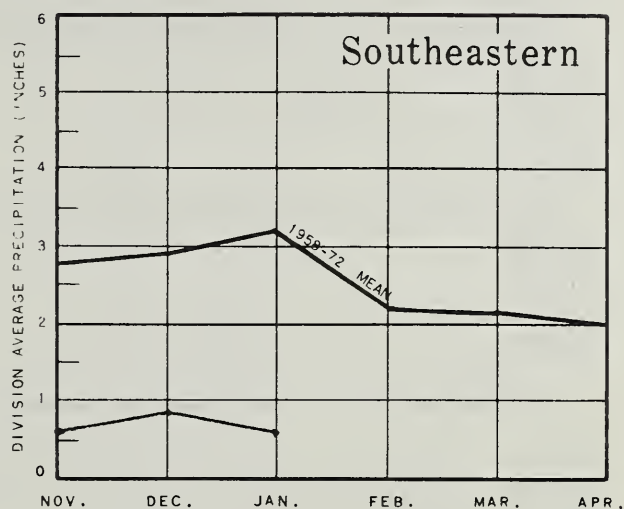
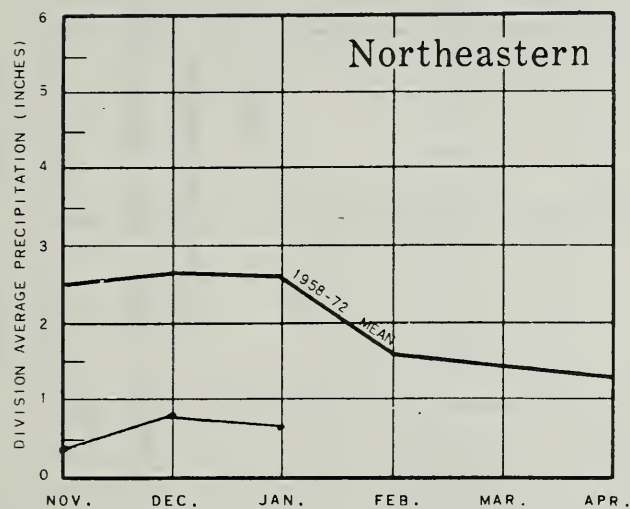
WASHINGTON SNOW COVER

DRAINAGE AREAS



WASHINGTON VALLEY PRECIPITATION

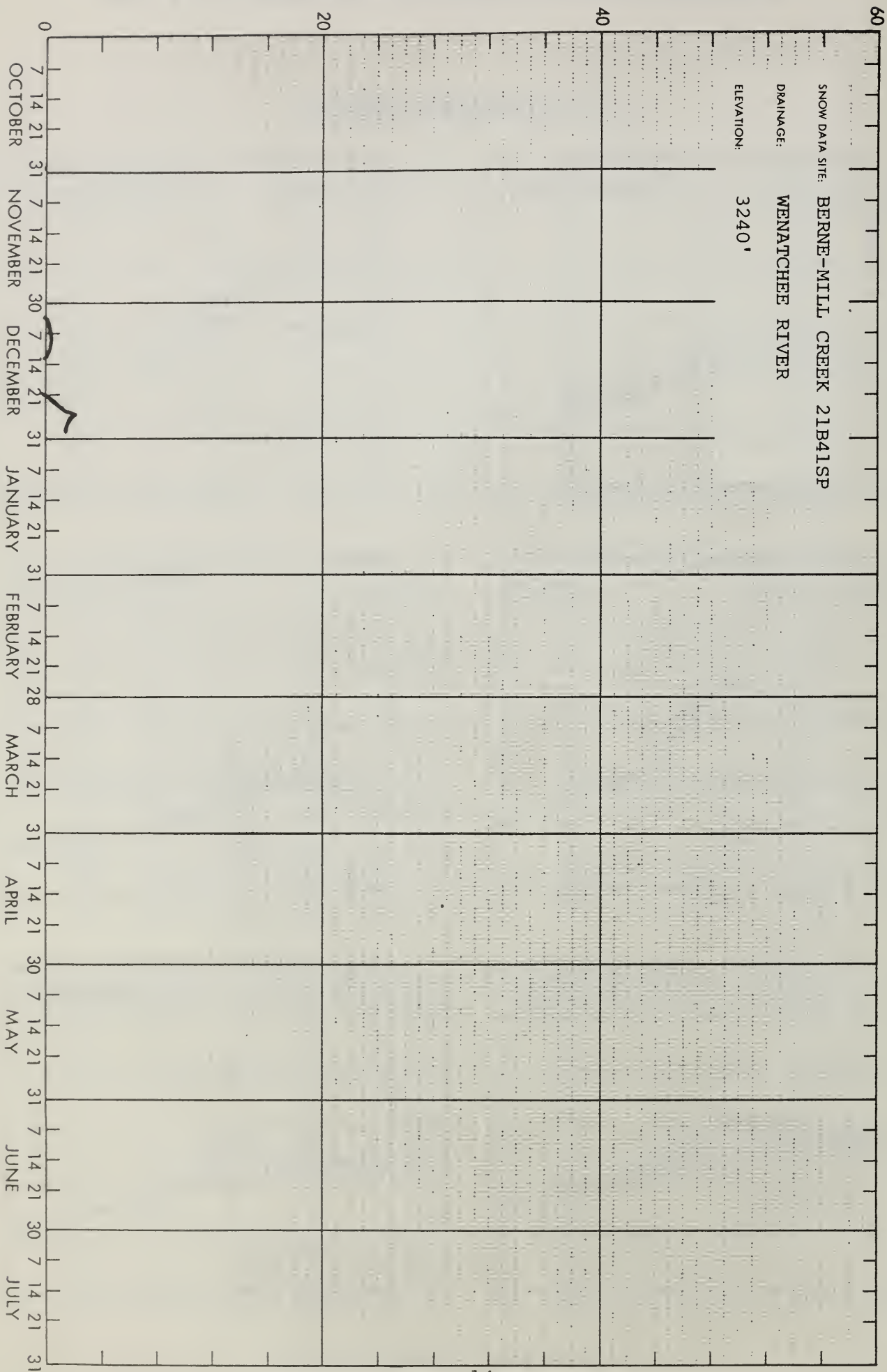
DRAINAGE AREAS



Preliminary Analysis by National Weather Service

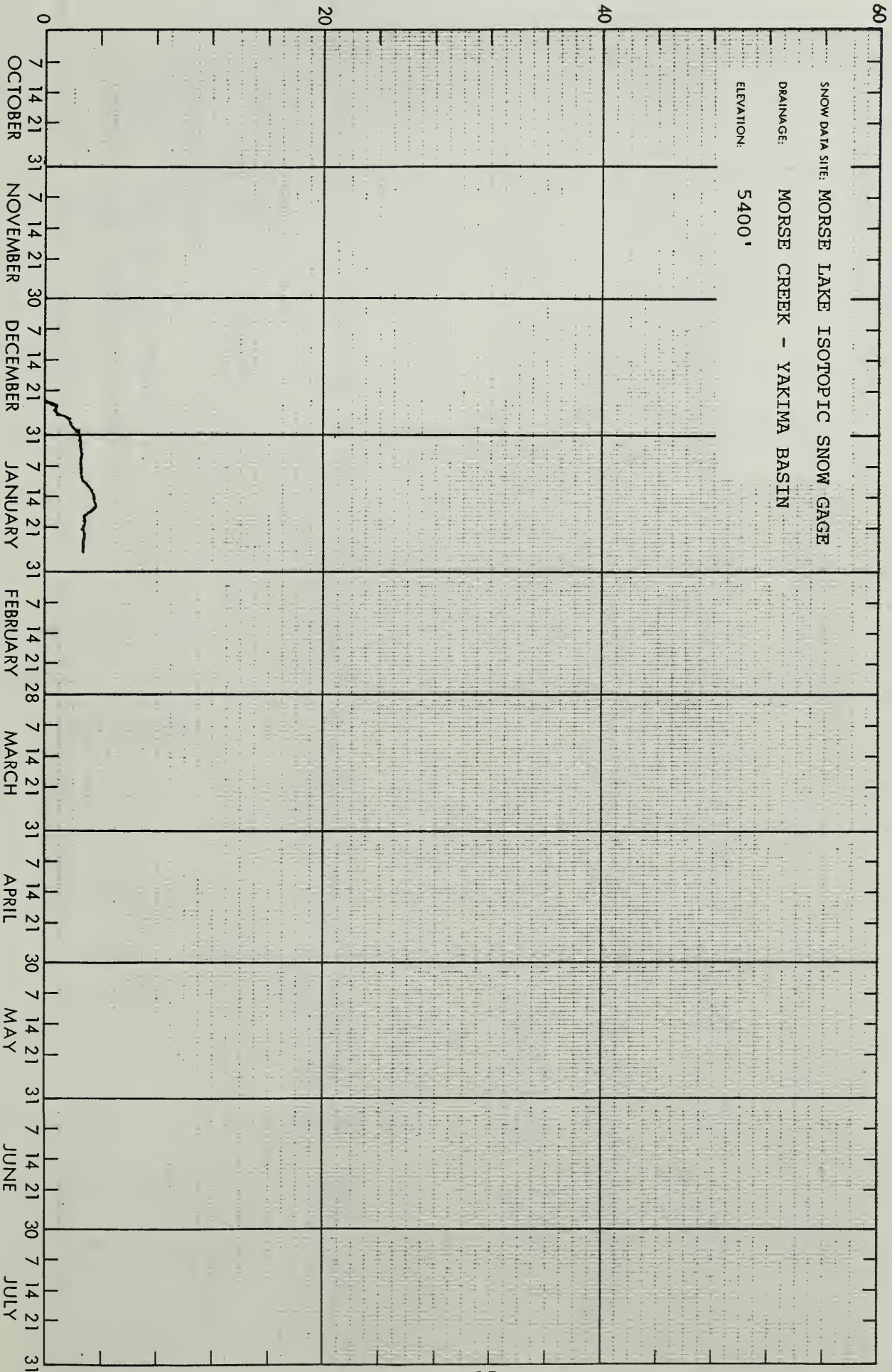
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INCHES OF WATER IN SNOWPACK

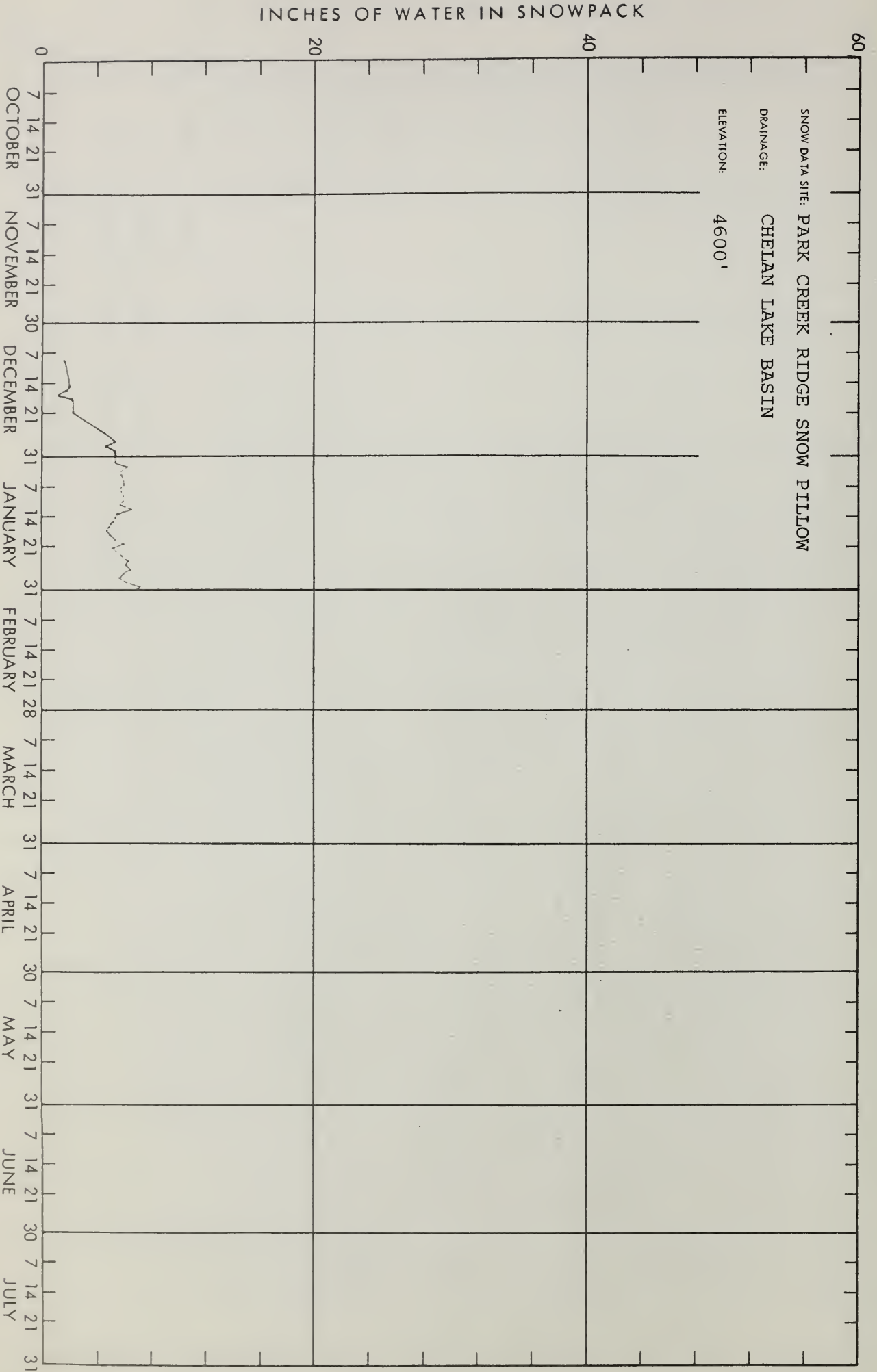


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INCHES OF WATER IN SNOWPACK



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SNOW DATA TO FEBRUARY 1, 1977 - APPENDIX 1

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average [#]

U P P E R C O L U M B I A D R A I N A G E

PEND OREILLE RIVER

Benton Meadow	16A02	2344	1/3	7	1.5	0.0	3.5
			1/25	12	1.7	3.4	6.0
Benton Spring	16A03	4900	1/3	12	2.4	2.6	8.4
			1/25	15	3.2	6.2	13.8
Chewelah	17A04	4925	1/29	11	2.0	7.2	13.0
Lookout	15B02	5250	12/30	24	4.8	11.8	15.6
			1/31	29	7.0	23.4	26.7
Nelson	19-Can	3050	11/3	0	0.0	2.1	-
			11/15	1.6	0.2	1.4	-
			11/29	5.5	0.9	2.4	-
			12/14	8.7	1.2	2.5	-
			12/30	15	2.6	4.5	7.8*
			1/28	18	3.1	8.8	11.5*
Schweitzer Bowl	16A06	4500	12/29	21	5.0	8.8	-
			1/27	25	7.0	14.9	22.6
Schweitzer Ridge	16A05	6100	12/29	25	5.8	19.2	-
			1/27	31	9.8	27.5	32.1
Winchester Creek	17A03	2970	1/28	11	1.7	4.9	9.7

KETTLE RIVER

Barnes Creek	90-Can	5300	1/26	38	10.0	15.5	14.5*
Big White Mtn.	154-Can	5500	12/29	23	4.5	-	-
			1/31	27	7.2	18.4	14.8*
Boulder Road	18A02	1450	12/30	7	0.9	2.5	2.7
			1/31	10	1.5	1.6	4.6
Butte Creek	18A03	4070	12/30	9.4	1.5	2.6	4.7
			1/31	14	2.4	6.2	7.4
Cabin Creek	18A08	3170	12/30	9	1.3	3.2	4.4
			1/31	11	1.7	5.7	6.5
Carmi	126-Can	4100	1/31	13	2.2	6.0	5.6*
Farron # 1	17-Can	4000	1/27	14	2.5	9.4	9.8*
Farron # 2	243-Can	4000	1/27	14	2.5	9.0	10.2*
Goat Creek	18A04	3595	12/30	8.2	1.3	2.5	4.1
			1/31	12	2.0	4.8	6.2
Monashee Pass	48A-Can	4500	12/30	19	4.2	5.9	7.5*
			1/26	27	6.8	11.4	9.7*
Old Glory Mountain	42-Can	7000	2/1	Not Measured		20.8	19.9*
Snow Caps Creek	18A05	2150	12/30	7	1.0	2.1	3.0
			1/31	10	1.5	4.0	4.8
Snow Caps Trail	18A06	2720	12/30	7.4	1.1	2.1	3.5
			1/31	10	1.5	4.9	5.5
Summit G. S.	18A07	4600	12/30	7.1	1.1	1.8	3.8
			1/31	11	1.6	4.8	5.9

Average based on 1958-72 average

* Average for years of record

SNOW DATA TO FEBRUARY 1, 1977 - APPENDIX 2

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average †#

KETTLE RIVER (Cont.)

Trapping Creek Lower	166-Can	3050	1/31	12	2.3	6.1	4.6*
Trapping Creek Upper	165-Can	4450	1/31	20	4.4	9.2	7.7*

COLVILLE RIVER

Baird	17A06	3215	1/30	12	2.4	3.8	6.1
Carlson	18A09	2885	1/29	7	0.6	2.6	4.5
Chewelah	17A04	4925	1/29	11	2.0	7.2	13.0
Stranger Mountain	17A05	5990	12/9	8	0.8	4.0	11.0
Togo	18A10	3370	12/9	6	0.5	5.6	10.1

SPOKANE RIVER

Above Burke	15B08	4100	12/30	24	5.3	8.4	-
			1/31	30	7.0	16.1	-
4th of July Summit	16B03	3100	12/30	0	0.0	0.0	4.1
			1/27	10	2.3	5.4	6.8
Lookout	15B02	5250	12/30	24	4.8	11.8	15.6
			1/31	29	7.0	23.4	26.4
Mosquito Ridge	16A04	5110		Late Report		22.3	-
Sherwin	16C01	3200	1/4	14	1.9	7.9	-
			2/1	16	3.6	11.6	11.0

OKANOGAN RIVER

Aberdeen Lake	6A-Can	4300	1/31	14	2.7	5.9	5.1*
Blackwall Peak	100-Can	6250	12/29	24	4.6	23.0	15.2*
			1/27	26	7.3	33.8	25.8*
Brenda Mine	193-Can	4800	1/28	18	3.3	12.7	10.6*
Brookmere	27-Can	3200	1/31	10	2.3	5.6	7.2*
Carrs Landing Upper	168-Can	3200	12/30	Trace	0.0	2.9	2.2*
			1/29	8.7	0.9	3.8	4.0*
Clark +	19A08a	7000	2/1	Not Measured		12.5	-
Dollar Watch +	20A29a	7000	2/1	24	6.0	15.2	19.4
Enderby	130-Can	6250	12/30	41	11.5	26.8	-
			1/31	49	14.6	30.2	26.2*
Freezeout Meadows New	20A38	5000	1/26	26	7.4	28.3	New
Hamilton Hill	107-Can	4900	1/27	17	4.1	14.9	10.8*
Harts Pass	20A05A	6500	1/26	32	9.7	43.7	32.7
Horseshoe Basin +	19A05a	7000	2/1	Not Measured		16.5	9.7
Isontok Lake	152-Can	6300	12/30	7.1	1.4	4.4	4.2*
			1/30	11	1.7	7.2	6.7*
Lost Horse Mtn.	105-Can	6300		Late Report		10.3	7.1*
Loup Loup	19A07	4650	1/28	3	0.4	4.7	7.6
McCulloch	4-Can	4200	12/30	9.1	1.1	3.2	3.4*
			1/30	15	2.5	6.6	5.0*

+ Snow water equivalent estimated from aerial stadia observation

Average based on 1958-72 average

* Average for years of record

SNOW DATA TO FEBRUARY 1, 1977 - APPENDIX 3

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average [†]

OKANOGAN RIVER (Cont.)

Missezula Mtn.	106-Can	5100	1/29	13	2.4	7.7	7.2*
Mission Creek	5A-Can	6000	12/29	25	5.3	9.3	9.8*
			1/28	31	7.7	15.4	14.1*
Monashee Pass	48A-Can	4500	12/30	19	4.2	5.9	7.5
			1/26	27	6.8	11.4	9.7*
Mount Kobau	156-Can	5950	1/31	9.4	1.7	7.2	10.8*
Muckamuck +	19A09a	6390	2/1	Trace	0.0	13.2	-
Mutton Creek No. 1	19A01	5700	12/7	0	0.0	8.3	10.4
Mutton Creek No. 2	19A04	6000	1/27	2.2	0.5	9.2	10.9
Mutton Creek No. 2 SP	19A11SP	6000	2/1	Not Measured		6.9	New
New Copper Mtn.	46A-Can	4300	1/28	7.5	1.1	4.9	5.6*
New Penticton Res. #2	183-Can	5225	1/31	16	3.2	7.8	8.1*
Oyama Lake	203-Can	4400	1/27	14	2.6	5.4	5.9*
Paysayten +	20A28a	4300	2/1	12	3.6	15.5	13.0
Postill Lake	55-Can	4500	1/29	19	3.6	6.6	6.0*
Rusty Creek	19A03	4000	1/27	1.0	0.2	3.1	5.9
Salmon Meadows	19A02	4500	1/27	2.8	0.4	5.6	7.8
Silver Star Mountain	99-Can	6050	1/30	37	9.1	25.2	19.9*
Starvation Mountain +	19A10a	6750	2/1	0	0.0	14.5	-
Summerland Reservoir	3A-Can	4200	12/31	9.8	1.9	6.0	4.9*
			1/29	14	2.5	9.2	8.1*
Touts Coulee	19A06	2845	1/27	2.9	0.5	1.6	3.4
Trout Creek	3-Can	4700	1/28	14	2.4	8.3	5.3*
Vaseux Creek	233-Can	4600	1/2	11	1.4	2.6	2.8*
			1/30	13	2.2	4.5	5.6*
White Rocks Mtn.	70-Can	6000	1/31	21	5.3	18.7	21.3*

METHOW RIVER

Billy Goat Pass +	21A10a	6409	2/1	24	6.0	19.1	20.8
Dollar Watch +	20A29a	7000	2/1	24	6.0	15.2	19.4
Harts Pass	20A05A	6500	1/26	32	9.7	43.7	32.7
Horseshoe Basin +	19A05A	7000	2/1	Not Measured		16.5	9.7
Loup Loup	19A07	4650	1/28	3	0.4	4.7	7.6
Mutton Creek No. 1	19A01	5700	12/7	0	0.0	8.3	10.4
Mutton Creek No. 2	19A04	6000	1/27	2.2	0.5	9.2	10.9
Rusty Creek	19A03	4000	1/27	1	0.2	3.1	5.9
Salmon Meadows	19A02	4500	1/27	2.8	0.4	5.6	7.8
War Creek Pass +	20A31a	6500	2/1	Not Measured		41.6	-

CHELAN LAKE BASIN

Cloudy Pass +	20A22a	6500	2/1	Not Measured		39.3	29.0
Greenwood Flat +	20A25a	3540	2/1	Not Measured		-	23.3
Little Meadows +	20A24a	5275	2/1	8	2.4	38.3	32.2

Average based on 1958-72 average

* Average for years of record

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO FEBRUARY 1, 1977- APPENDIX 4

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average †#

CHELAN LAKE BASIN (Cont.)

Lyman Lake +	20A23A	5900	2/1	Not Measured	50.2	42.1
Park Creek Flat +	20A13a	2220	2/1	Not Measured	32.3	27.3
Park Creek Ridge	20A12A	4600	1/1	- 5.4	-	-
Petersons +	20A16a	3730	2/1	Not Measured	-	25.1
Rainy Pass	20A09	4780	1/26	27 7.7	28.7	29.5
Safety Harbor +	20A30A	6300	2/1	7 1.8	-	-
War Creek Pass +	20A31a	6500	2/1	Not Measured	41.6	-

ENTIAT RIVER

Blue Creek G. S. +	20B28a	5425	1/16	24 9.0	-	-
			2/1	Late Report	39.9	-
Brief	20B19	1600	1/26	5 1.0	7.5	6.8
Entiat Meadows +	20A33a	4540	2/1	Late Report	42.8	-
Entiat River Trail +	20A34a	3325	2/1	Late Report	19.4	-
Four Mile Ridge +	20B27a	6800	2/1	Late Report	31.9	-
Fox Camp +	20A36a	6510	2/1	Late Report	56.6	-
Pope Ridge	20B20	3450	1/26	5 1.0	13.0	14.0
Pugh Ridge	20A32a	6725	2/1	Late Report	35.6	-
Shady Pass	20A37	6200	1/27	10 2.6	28.8	-
Snow Brush +	20A35a	3910	1/15	9 2.0	-	-
			2/1	Late Report	24.1	-
Tommy Creek +	20B21a	4900	1/5	12 3.0	-	-
			2/1	Late Report	20.3	-

WENATCHEE RIVER

Berne Mill Creek	21B23	3170	12/29	7.8 1.8	11.0	11.2
			1/14	14 2.2	-	16.8
			1/28	6.2 2.2	19.7	21.4
Berne Mill Creek New	21B41SP	3240	12/29	8.4 1.6	7.6	9.9
			1/28	0 0.0	16.0	18.7
Blewett Pass No. 2	20B02	4270	12/28	0 0.0	4.6	6.7
			2/1	0 0.0	10.1	13.0
Chiwaukum G. S.	20B16	1810	12/29	7 1.0	5.2	5.1
			1/14	7.4 1.1	7.9	7.8
			1/28	5.6 2.0	9.0	9.9
Lake Wenatchee	20B05	1970	12/29	6.7 1.9	8.4	6.1
			1/14	11 2.4	14.6	9.6
			1/28	6.9 2.4	13.1	12.1
Leavenworth R. S.	20B17	1127	12/27	2 0.5	2.0	3.4
			1/14	2.7 1.1	5.8	4.7
			1/28	1.6 0.8	6.0	6.0
Lyman Lake +	20A23A	5900	2/1	Not Measured	50.2	42.1

Average based on 1958-72 average

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO FEBRUARY 1, 1977 - APPENDIX 5

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average [#]

WENATCHEE RIVER (Cont.)

Merritt	20B18	2140	12/29	7.2	1.8	4.6	7.9
			1/14	13	2.0	11.4	11.7
			1/28	7.6	2.2	11.2	14.5
Stevens Pass	21B01	4070	11/30	3	1.0	13.0	8.9
			12/14	7	2.3	20.0	14.7
			12/29	18	5.7	25.3	21.7
			1/14	27	6.9	40.3	29.0
Stevens Pass Sand Shed	21B45	3700	1/28	17	6.3	39.8	37.0
			12/29	11	2.9	16.6	-
			1/14	19	3.3	28.0	-
			1/28	6.8	2.3	30.0	-

COLOCKUM CREEK

Colockum Creek Upper	20B22	5300	1/27	0	0.0	3.2	-
Colockum Creek Lower	20B23	4300	1/27	0	0.0	3.2	-
Trough # 2	20B25SP	5310	1/27	0	0.0	-	-

SQUILCHUCK CREEK

Beehive Springs	20B03	4400	1/28	0	0.0	1.7	6.6
Scout-A-Vista	20B04	3400	1/28	Trace	0.0	4.2	6.5

STEMILT CREEK

Jump-Off	20B08	4450	1/27	0	0.0	3.4	6.7
Stemilt Slide	20B06	5000	1/27	0	0.0	8.6	12.4
Upper Wheeler	20B07	4400	1/29	0	0.0	3.1	8.3

YAKIMA RIVER

Ahtanum R. S.	21C11	3100	12/27	0	0.0	1.0	3.1
			1/24	Trace	0.0	2.2	6.3
Blewett Pass No. 2	20B02	4270	12/28	0	0.0	4.6	6.7
			2/1	0	0.0	10.1	13.0
Bumping Lake Old	21C08	3450	12/29	0	0.0	3.7	7.1
			1/28	0	0.0	8.7	13.2
Bumping Lake New	21C36	3400	12/29	0	0.0	5.6	8.7
			1/28	0	0.0	12.7	18.3
Cayuse Pass	21C06	5300	12/27	22	4.3	35.0	33.2
			1/26	21	7.9	61.2	58.7
Colockum Pass	20B09	5370	1/31	0	0.0	10.9	11.2
Cooke Creek	20B10	4123	1/31	0	0.0	0.0	7.2

Average based on 1958-72 average

SNOW DATA TO FEBRUARY 1, 1977 - APPENDIX 6

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average #

YAKIMA RIVER (Cont.)

Corral Pass	21B13	6000	1/28	12	4.2	30.1	-
Grouse Camp	20B11	5385	1/31	0	0.0	9.9	12.1
High Creek	20B12	2930	1/31	0	0.0	5.7	4.9
Joe Lake +	21B46a	4624	1/27	36	13.4	58.8	-
Green Lake	21C10	6000	1/24	7.5	2.3	23.0	-
Lake Cle Elum	21B14M	2200	11/26	Trace	0.0	0.0	1.1
			1/4	2.2	0.4	4.8	4.2
			1/14	5	0.8	10.4	6.5
			1/28	0	0.0	8.3	8.2
Lemah Creek +	21B47a	3327	1/27	16	6.1	33.6	-
Manashtash	20C01	3935	1/30	0	0.0	0.0	3.9
Morse Lake	21C17	5400	1/27	13	3.0	36.7	39.4
Nanum	20B13	3875	1/31	0	0.0	6.2	7.8
Olallie Meadows	21B02	3625	1/27	13	0.8	32.0	32.7
Satus Pass	20D01	4030	1/28	0	0.0	1.8	8.7
Stampede Pass SP	21B10	3860	12/31	-	3.6	23.2	16.5
			1/15	-	4.2	38.5	22.0
			2/1	-	2.0	38.4	28.7
Trail Creek	20B14	3360	1/31	0	0.0	0.0	2.3
Tunnel Avenue	21B08	2450	11/29	Trace	0.0	3.0	2.7
			1/3	4.9	1.0	6.2	9.2
			1/14	11	2.6	16.5	11.3
			1/28	4.2	1.2	15.7	17.6
Van Epps Pass +	20B26a	5925	1/27	27	10.3	41.6	-
Walters Flat	20B15	3360	1/31	0	0.0	5.4	6.3
Waptus Lake +	21B49a	3024	1/27	18	6.9	33.6	-
White Pass (E. Side)	21C28	4500	1/28	0	0.0	12.7	18.2

AHTANUM CREEK

Ahtanum R. S.	21C11	3100	12/27	0	0.0	1.0	3.1
			1/24	Trace	0.0	2.2	6.3
Green Lake	21C10	6000	1/24	7.5	2.3	23.0	-

LOWER COLUMBIA DRAINAGEASOTIN CREEK

Spruce Springs	17C04	5700	1/21	12	2.4	18.8	19.3
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MILL CREEK

Homestead	17C01	4030	1/26	2.1	0.6	5.9	6.5
Martin Springs	17C02	4400	1/26	7	1.6	9.8	9.8
Tollgate	18D03M	5070	1/27	17	4.0	20.7	16.7

Average based on 1958-72 average

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO FEBRUARY 1, 1977 - APPENDIX 7

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average ⁺ _#

KLICKITAT RIVER

Satus Pass	20D01	4030	1/28	0	0.0	1.8	8.7
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WHITE SALMON RIVER

Cultus Creek	21C12	4000	12/27	7	2.7	12.9	17.8
			1/26	10	3.4	23.3	32.5
Surprise Lakes	21C13A	4250	12/27	7	3.0	12.3	20.1
			1/26	12	4.2	23.5	35.9

WIND RIVER

Old Man Pass	21D19	3100	12/27	0	0.0	0.9	7.5
			1/26	0	0.0	6.0	14.7

LEWIS RIVER

Blue Lake +	21C22a	4800	12/27	20	8.0	28.7	34.5
			1/26	22	7.7	53.2	60.5
Bob's Trail	21C21	2200	12/28	0	0.0	2.0	6.5
			1/26	0	0.0	7.4	12.0
Calamity Ridge +	22D01a	2500	12/27	0	0.0	1.6	3.9
			1/26	0	0.0	1.4	5.6
Council Pass +	21C18	4200	12/27	10	4.3	11.1	18.6
			1/26	8	2.8	26.2	29.7
Cultus Creek	21C12	4000	12/27	7	2.7	12.9	17.8
			1/26	10	3.4	23.3	32.5
Divide Meadow +	21C29a	5600	12/27	12	4.8	22.8	27.5
			1/26	14	5.0	41.0	42.3
Grand Meadow	21C25	3500	12/27	Trace	0.0	6.1	10.5
			1/26	Trace	0.0	13.9	19.4
Lone Pine Shelter	21C26	3800	12/27	4	1.3	13.8	17.0
			1/26	3.6	1.3	23.2	30.5
Marble Mountain +	22C05a	3200	12/27	Trace	0.0	0.7	12.7
			1/26	0	0.0	9.2	28.7
New Muddy River	22C06	2000	12/28	0	0.0	1.0	6.4
			1/26	0	0.0	4.4	12.1
Old Man Pass	21D19	3100	12/27	0	0.0	0.9	7.5
			1/26	0	0.0	6.0	14.7
Plains of Abraham +	22C01a	4400	12/28	6	2.7	20.3	28.8
			1/26	8	2.9	30.0	45.2
Smith Creek Road	22C04	2100	12/27	0	0.0	0.8	9.5
			1/26	0	0.0	6.3	15.7
Spencer Meadow +	21C20a	3400	12/27	1	0.3	2.9	10.2
			1/26	0	0.0	7.9	17.9
Surprise Lakes	21C13A	4250	12/27	7	3.0	12.3	20.1
			1/26	12	4.2	23.5	35.9

+ Water equivalent estimated from aerial stadia observation

Average based on 1958-72 average

SNOW DATA TO FEBRUARY 1, 1977 - APPENDIX 8

SNOW DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average #

LEWIS RIVER (Cont.)

Table Mountain +	21C24a	4200	12/27	10	4.3	13.3	21.4
			1/26	6	2.1	28.7	34.8
Timbered Peak +	21D18a	3000	12/27	0	0.0	2.2	8.0
			1/26	0	0.0	3.3	14.3

COWLITZ RIVER

Cayuse Pass	21C06	5300	12/27	22	4.3	35.0	41.3
			1/26	21	7.9	61.2	58.7
Plains of Abraham +	22C01a	4400	12/28	6	2.7	20.3	28.8
			1/26	8	2.9	30.0	45.2
White Pass (E. Side)	21C28	4500	1/28	0	0.0	12.7	18.2

PUGET SOUND DRAINAGEWHITE RIVER

Cayuse Pass	21C06	5300	12/27	22	4.3	35.0	41.3
			1/26	21	7.9	61.2	58.7
Corral Pass	21B13	6000	1/28	12	4.2	30.1	-
Morse Lake	21C17	5400	1/27	13	3.0	36.7	39.4

GREEN RIVER

Airstrip	21B24	1800	12/27	0	0.0	0.0	2.5
			1/26	0	0.0	7.6	4.9
Charley Creek	21B25	1200	12/27	0	0.0	0.0	1.6
			1/26	0	0.0	0.0	1.5
Cougar Mountain	21B42SP	3200	1/31	0	0.0	7.7	-
Grass Mtn. No. 2	21B27	2900	12/27	0	0.0	2.7	7.6
			1/26	0	0.0	6.7	15.3
Grass Mtn. No. 3	21B28	2100	12/27	0	0.0	0.3	2.6
			1/26	0	0.0	3.3	5.3
Lester Creek	21B29	3100	12/27	6.3	1.1	8.0	9.7
			1/26	8.4	2.0	17.4	17.8
Lynn Lake	21B50	4000	12/27	4.2	0.9	1.1	-
			1/26	0	0.0	8.7	-
Sawmill Ridge	21B31	4700	12/27	12	2.2	15.8	15.2
			1/26	11	3.7	29.0	28.6
Snowshoe Butte	21B43SP	5000	1/26	16	3.5	33.3	-
Stampede Pass SP	21B10	3860	12/31	-	3.6	23.2	16.5
			1/15	-	4.2	38.5	22.0
			2/1	-	2.0	38.4	28.7
Twin Camp	21B30	4100	12/27	7.5	1.8	7.7	11.3
			1/26	4.8	1.7	16.8	17.6

Average based on 1958-72 average

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO FEBRUARY 1, 1977 - APPENDIX 9

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average #

SNOQUALMIE RIVER

Olallie Meadows	21B02	3625	1/27	13	0.8	32.0	32.7
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SKYKOMISH RIVER

Stevens Pass	21B01	4070	12/15	7	2.3	20.0	14.7
			12/29	18	5.7	25.3	21.7
			1/14	27	6.9	40.3	29.0
			1/28	17	6.3	39.8	37.0
Stevens Pass Sand Shed	21B45	4070	12/29	11	2.9	16.6	-
			1/14	19	3.3	28.0	-
			1/28	6.8	2.3	30.0	-

SKAGIT RIVER

Beaver Creek Trail	21A04	2200	1/27	1.9	0.5	12.0	-
Beaver Pass	21A01	3680	1/27	4.2	1.4	23.6	-
Brown Top Ridge +	21A28a	6000	1/26	41	13.6	60.8	-
Cloudy Pass +	20A22a	6500	2/1	Not Measured		39.3	29.0
Devils Park	20A04	5900	1/26	30	8.7	45.5	31.9
Freezeout Creek Trail	20A01	3500	1/26	3.8	0.9	9.8	-
Freezeout Meadows New	20A38	5000	1/26	26	7.4	28.3	-
Granite Creek	21A29A	3500	1/26	15	3.1	19.2	-
Harts Pass	20A05A	6500	1/26	32	9.7	43.7	32.7
Klesilkwa	35B-Can	3700	1/31	1.2	0.3	-	10.4*
Lyman Lake	20A23A	5900	2/1	Not Measured		50.2	42.1
Meadow Cabins	20A08	1900	1/26	0	0.0	7.8	-
New Hozomeen Lake	21A30	2800	1/26	2.3	0.8	8.7	-
New Tashme	26A-Can	2500	2/1	Late Report		9.8	8.7*
Rainy Pass	20A09	4780	1/26	27	7.7	38.7	29.5
Thunder Basin	20A07	4200	1/26	11	3.0	14.3	-

BAKER RIVER

Baker Pass +	21A27a	4900	11/1	10	3.0	-	-
			11/29	14	4.0	26.0	-
			12/28	40	14.0	40.0	-
			1/28	48	19.0	67.0	-
Dock Butte +	21A11a	3800	11/1	2	1.0	-	-
			11/29	5	2.0	16.0	-
			12/28	9	4.0	26.0	-
			1/28	10	4.0	50.0	44.8
Easy Pass +	21A7A	5200	11/1	6	2.0	-	-
			11/29	5	2.0	20.0	-
			12/28	28	10.0	44.0	-
			1/28	28	11.0	-	53.9

Average based on 1958-72 average

* Average for years of record

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO FEBRUARY 1, 1977 - APPENDIX 10

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average [#]

BAKER RIVER (Cont.)

Jasper Pass +	21A06A	5400	11/1	6	2.0	-	-
			11/29	6	2.0	30.0	-
			12/28	54	19.0	51.0	-
			1/28	34	14.0	81.0	65.7
Marten Lake	21A09A	3600	11/1	2	1.0	-	-
			11/29	5	2.0	26.0	-
			12/28	28	11.0	38.0	-
			1/28	36	14.0	65.0	52.2
Mt. Blum +	21A18a	5800	11/1	6	2.0	-	-
			11/29	12	4.0	18.0	-
			12/28	32	11.0	41.0	-
			1/28	28	11.0	-	42.5
Panorama New	21A26	4300	1/15	33	9.6	41.6	-
			1/30	19	7.5	48.2	-
Rocky Creek	21A12A	2100	11/1	0	0.0	-	-
			11/29	0	0.0	7.0	-
			12/28	0	0.0	10.0	-
			1/28	0	0.0	21.0	21.5
Schreibers Meadow	21A10A	3400	11/1	0	0.0	-	-
			11/29	2	1.0	14.0	-
			12/28	10	4.0	24.0	-
			1/28	6	2.0	34.0	39.9
S. F. Thunder Creek +	21A14A	2200	11/1	0	0.0	-	-
			11/29	0	0.0	1.0	-
			12/28	0	0.0	2.0	-
			1/28	0	0.0	13.0	7.4
Watson Lakes	21A08A	4500	11/1	3	1.0	-	-
			11/29	5	2.0	14.0	-
			12/28	25	10.0	22.0	-
			1/28	22	9.0	40.0	42.9

NOOKSACK RIVER

Glacier Creek	21A23	3700	12/2	0	0.0	-	-
			1/1	7.8	0.9	-	-
			1/31	0	0.0	-	-
Panorama New	21A26	4300	1/15	33	9.6	41.6	-
			1/30	19	7.5	48.2	-

OLYMPIC PENINSULADUNGENESS RIVER

Deer Park	23B04	5200	1/27	0	0.0	-	-
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Average based on 1958-72 average

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO FEBRUARY 1, 1977 - APPENDIX 11

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #

MORSE CREEK

Cox Valley	23B14	4500	1/28	0	0.0	25.2	-
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ELWHA RIVER

Hurricane	23B03	4500	1/28	0	0.0	12.3	16.7
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Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Department of Lands, Forests and Water Resources,
Water Resources Service, British Columbia

States:

Washington State Department of Ecology
Washington State Department of Natural Resources

Federal:

Department of the Army
Corps of Engineers
U. S. Department of Agriculture
Forest Service
U. S. Department of Commerce
NOAA, National Weather Service
U. S. Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Geological Survey
National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District
Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Tacoma
City of Seattle

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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